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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/017,193 | 12/12/2001 | Mai Huong Dang | 52200.8010 | 5901 |
| 22918 | 7590 | 04/15/2004 | EXAMINER | |
| PERKINS COIE LLP P.O. BOX 2168 MENLO PARK, CA 94026 | | | PADGETT, MARIANNE L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1762 | |

DATE MAILED: 04/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | | |
|-----------------|--------------|----------------|------------|
| Application No. | 10/017,193 | Applicant(s) | Deng et al |
| Examiner | M.L. Paiglet | Group Art Unit | 1702 |

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Responsive to communication(s) filed on 10/24/03

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

Claim(s) 1-32 is/are pending in the application.

Of the above claim(s) 11, 16-19, 27-28 + 32 is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-10, 12-15, 20-26 + 29-31 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement

Application Papers

The proposed drawing correction, filed on _____ is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

All Some* None of the:

Certified copies of the priority documents have been received.

Certified copies of the priority documents have been received in Application No. _____.

Copies of the certified copies of the priority documents have been received
in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

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1. This application contains claim 32 drawn to an invention nonelected with traverse in Paper No. 8 (received 4/23/03). A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
2. Applicant's amendments correct 112 issues of section 2 of paper # 9 (mailed 7/18/03). Note as amended, claims 27-28 are directed to species that are non-elected, while claims 29-31 might be generic.
3. It is noted that page 8 of the specification teaches "preferably 'at or near atmospheric pressure' refers to the pressure with a chamber which is open to the atmosphere, the actual pressure will depend on. . . preferred pressure is between 700-800 torr" (lines 16-19, emphasis added). In the following paragraph, lines 21-22 state "such treatment may be preformed in either open or confined space". The paragraph bridging p. 8-9, discusses Fig. 2-4, shows that plasma chamber 25 ejects or sprays plasma therefrom via nozzle 27 (hence is a remote plasma) and teaches "Any atmospheric plasma generator known to those skilled in the art may be used in the present invention". Hence, these teaching provide support for applicant's amendment to claim 1 of "an open atmosphere", but do not provide any special significance to the effect of using such, with the "preferably" presumably relating to the teaching on p. 3 concerning lower cost due to not needing equipment to tightly seal the system. As the plasma may be produced in a confirmed chamber, then sprayed at the substrate (fig. 2-4) or requires specific gases or carrier gas (p. 4, lines 8-15 or p. 9, lines 3-16), "open atmospheric" read in light of the specification does not necessitate that on air plasma is being used, although such is neither

excluded nor explicitly taught, but that any gas materials may be employed in the atmospheric plasma, as long the plasma environment is not sealed from the "open atmospheric",

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a). The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-10, 12 –15, 20-24, 26 & 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beumer et al (2003/0008397 A1), optionally considering Valentine (6,428,579 B1) or Clapper (5,744,515) for claim 15, as discussed in section 5 and 6 of paper # 9 (mailed 7/18/03), and further in view of Maruyama et al (5,597,456) or Li et al (6,214,249 B1).

Applicant's have added the requirement of "open atmosphere" to claim 1 to describe their plasma limitations, and while Beumer et al teach "the present invention can also be deposited at atmospheric pressure using suitable equipment" [0012], they have no teachings as to whether or not that plasma equipment is open to the atmosphere. Note that as Beumer et al's plasma of aldehyde, possibly in a carrier gas, such as Ar, used in the plasma will inherently create active species on the substrate surface. Also, that since it is taught by Beumer, the aldehyde monomer is continued to be supplied, this also reads on applicant's "exposing" step (c), as there is NO requirement that the gases or reagents used in steps (a-b) and (c) be different, only that in (c) the surface must already be treated, which it is by Beumer et al's process.

As Beumer et al does not provide any details on the atmospheric plasma equipment to be used, it would have been obvious to one of ordinary skill in the art to look to the prior art for the taught "suitable equipment". Beumer et al desires to treat synthetic material, such as Teflon, to be used for medical devices with atmospheric plasma, hence Maruyama et al provide teaching of suitable equipment therefore, as they are plasma treating plastic tubing to be used for medical

devices with glow discharge plasma atmospheric pressure. Mixtures of gases that can include monomers may be used, and the plasma region is open to the atmosphere (abstract; figures 1-4, 8-13, 18-19 & 22; col. 1, lines 10-15 and 66 - col. 2, lines 14 and 28-65; col. 3, lines 3-14+; col. 6, lines 50-67+; col. 9, lines 7-45+, esp. line 18; etc). It would have been obvious to one of ordinary skill in the art to employ the plasma equipment of Maruyama et al in Beumer et al, because they are both atmospheric plasma treating polymeric substrates intended for medical use with analogues mixture of gases, especially considering Maruyama et al's taught advantage of lower cost due to decreased equipment cost when vacuum apparatus is not required.

Alternately, Li et al (6,214,249 B1) also teach producing a stable atmospheric pressure glow discharge plasma (abstract; Summary; and col. 2, line 65 - col. 3, line 7) without the need for a high priced vacuum chamber or pumping equipment. Fig. 1A-B, described col. 3, lines 8-44 show a gas chamber with a nozzle opposed to the sample substrate to be treated, or fig. 4 with the tube substance at an open end of a plasma chamber. Li et al teach use of inert gas a their plasma, that may be used to create broken bonds on surface or alter surface binding configurations that may used to enhance bonding (col. 3, lines 54 - col. 4, line 8+; and col. 5, lines 26-36 and 49-53). While Li et al do not use the phrase, "open to atmospheric" or the like, it is clear from their specification that no vacuum equipment is employed are the substrate being plasma treated is shown either free standing (i.e. not in any chamber) or at the open end of a chamber defining a plasma zone, as in fig 4. It would have been obvious to one of ordinary skill to employ atmospheric plasma apparatus as taught Li et al (249) in the Beumer et al process due to the apparatus' ability to preform functions as taught in the primary reference, especially given taught uses and low cost advantages.

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6. Li et al, 6,221,278B1 or 5,977,715, have equivalent teachings to (249) applied above, hence would have been equivalent in the above rejections.

7. Claims 1-9 and 21-26, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikada et al (4,743,258) as discussed in section 7-8 of paper# 9, and further in view of Krause et al (5,500,257) or Ikada et al (JP 59-15913).

As in Beumer above, Ikeda et al does not say one way or another, whether or not their plasma, which is an atmospheric pressure corona discharge, is done in an “open atmosphere” or not. However, one of ordinary skill in the art would recognize that the use of air, described as “dry air” is consistent and compatible with treatment outside of any chamber or in an unsealed chamber, hence it would have been obvious to do so, as typical corona discharge procedure does not require sealed chambers. Furthermore, Krause et al teach use of corona discharge for activating polymeric materials (abstract; fig. 3; col. 5, lines 7-34), where it is noted that open air and open atmosphere are known to be the most preferred economical approach to corona discharge, hence further obvious to employ in Ikada et al for known economical reasons.

Alternately, in an alternate reference Ikada et al (JP) are analogously modifying a polymeric surface by grafting, where surface treatment is via corona discharge in open atmosphere, hence it would have been obvious for Ikada et al(258) to use method known to themselves for like purposes, on the materials, when such details have not been spelled out in their own primary reference.

8. Claims 1-10, 12-15, 20-24, 26 and 29-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 and 11-16

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of U.S. Patent No. 6,159,531 in view of Beumer et al as discussed in section 10 of paper # 9, and further in view of Maruyama et al or Li et al (249) as discussed above.

9. Claims 1-10, 21-26 and 29-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 and 11-16 of U.S. Patent No. 6,159,531 in view of Ikada et al (258) as discussed in section 11 of paper # 9, and further in view of Krause or Ikada et al (JP) as discussed above.

10. Applicant's arguments filed 10/24/03 and discussed above have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-10, 12-15, 20-26 and 29-31 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on Monday-Friday from about 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. L. Padgett/af
April 07, 2004
April 13, 2004


MARIANNE PADGETT
PRIMARY EXAMINER